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**Amendments to the Drawing Figures:**

The attached drawing sheets include proposed changes to FIGs. 1-3 and replace the original sheet including FIGs 1-3.

In particular, FIGs. 1-3 have been amended to label them as prior art.

Attachment: Replacement Sheets.

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### **REMARKS/DISCUSSION OF ISSUES**

By this amendment, Applicants amend the drawings and add new claims 19-20.

Accordingly, claims 1-20 are pending in the application.

Reexamination and reconsideration are respectfully requested in view of the following remarks.

### **35 U.S.C. § 102 and 103**

The Office Action rejects: claims 1-4, 6-12, 14-16 and 18 under 35 U.S.C. § 102(b) over Buhring 1065600 ("Buhring"); and claims 5, 13 and 17 under 35 U.S.C. § 103 over Buhring in view of Yamanaka U.S. patent publication 2002/0154524 ("Yamanaka"). .

Applicants respectfully traverse these rejections for at least the following reasons.

#### **Claim 1**

Among other things, the device of claim 1 includes at least one switch control circuit coupled to the floating bus and the power and data system for facilitating charging of the floating bus and for controlling electromagnetic emission from the device.

The Office Action argues that in Buhring discloses such a switch control circuit as elements 9, 10, 14, 15 and 20.

Applicants respectfully disagree.

As disclosed in the present application, in a circuit such as that disclosed by Buhring when the switches 9, 10 and 20 close the rate of change of the floating bus voltage is uncontrolled such that the edge of the voltage waveform can be quite sharp, producing a signal spectrum with high harmonic content and unconstrained electromagnetic emissions (EME).

In contrast, the switch control circuit of claim 1 controls the EME from the device.

It is well established that a rejection under 35 U.S.C. § 102 requires that the

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prior art reference must teach or suggest all of the claim limitations. Furthermore, M.P.E.P. § 2112 provides that the express, implicit, and inherent disclosures of a prior art reference may be relied upon in the rejection of claims under 35 U.S.C. § 102.

The Office Action argues that Buhring's switch inherently controls EME from the device.

Applicants respectfully disagree.

M.P.E.P. § 2112 IV provides that:

**EXAMINER MUST PROVIDE RATIONALE OR EVIDENCE TENDING  
TO SHOW INHERENCY**

*The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. In re Rijckaert, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art); In re Oelrich, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981). "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." In re Robertson, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999).*

(emphasis added).

Furthermore, a claim rejection must be based on objective evidence of record,

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and cannot be supported merely on subjective belief and unknown authority. See, e.g., M.P.E.P. § 2144.03; In re Lee, 277 F.3d at 1344-45, 61 USPQ2d at 1434-35 (Fed. Cir. 2002); In re Zerko, 258 F.3d at 1386, 59 USPQ2d at 1697.

No such concrete evidence has been provided by the Examiner here, nor did the Examiner submit an affidavit as required by 37 C.F.R. § 1.104(d)(2) if this proposed motive were based on facts within his personal knowledge (see M.P.E.P. § 2144.03). Applicants respectfully request that such an affidavit be provided if a rejection continues to be made without a citation of any objective evidence.

Meanwhile, Applicants respectfully submit that elements 9, 10, 14, 15 and 20 of Buhring do not control EME from the device. In this regard, it is noted that "control" is commonly understood to mean "*exercise restraint or direction over; hold in check, or curb; or eliminate or prevent the flourishing or spread of.*" Elements 9, 10, 14, 15 and 20 do not "*exercise restraint or direction over; hold in check, or curb; or eliminate or prevent the flourishing or spread of*" EME in Buhring's device.

Therefore, Applicants respectfully submit that Buhring does not disclose the switch control circuit of claim 1, and therefore claim 1 is patentable over the cited prior art.

Accordingly, for at least these reasons, Applicants respectfully submit that claim 1 is patentable over the prior art.

Claims 2-4 and 6-9

Claims 2-4 and 6-9 depend from claim 1 and are deemed patentable over the prior art for at least the reasons set forth above with respect to claim 1, and for the following additional reasons.

Claim 7

Among other things, in the device of claim 7, the first switch control circuit and the second switch control circuit are driven by a reference circuit, the reference circuit generating a first reference signal for the first switch control circuit and a second reference signal for the second switch control circuit.

Applicants respectfully submit that Buhring's device does not include any reference circuit generating any reference signals for any switch control circuits.

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A power supply is not a reference circuit, and power supply voltages that may be supplied to switching signal generators 14 and 15 are not "reference signals." Indeed, they are not signals at all . . . they are merely supply voltages. There is nothing in either Buhring or the present application, or the understanding of anyone of any skill in the art, at all that could possibly lead one to refer to the supply voltages for switching signal generators 14 and 15 as "reference signals."

Accordingly, for at least this additional reason, Applicants respectfully submit that claim 7 is patentable over the prior art.

Claim 8

Among other things, in the device of claim 8, when a voltage across a first terminal and a second terminal of the first switch control circuit is greater than a threshold value, output current from the first switch control circuit is constant at a value dependent on the first reference signal, and when voltage across a first terminal and a second terminal of the second switch control circuit is greater than the threshold value, output from the second switch control circuit is constant at a value dependent on the second reference signal.

Applicants respectfully submit that Buhring's device does not include any such features.

The Office Action states that "*clearly the output current is dependent upon the power supply voltage of 14 and 15.*"

Respectfully, no, it is not. Indeed, to the contrary, the output current from the switching devices 9, 10 and 20 is not dependent on the power supply voltage of the switching signal generators 14 and 15. Buhring teaches that the switching signal generators 14 and 15 apply switching signal waveforms to the gates of switching devices 9, 10 and 20 sufficient to turn them on during the data phase. Once the switching devices 9, 10 and 20 are turned on, the voltage across capacitor 6 is transferred to the floating bus. The current output from switching devices 9, 10 and 20 is not dependent on any power supply voltage applied to the switching signal generators 14 and 15.

Accordingly, for at least these additional reasons, Applicants respectfully

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submit that claim 8 is patentable over the prior art.

Claim 9

In the device of claim 9, at least one switch control circuit controls electromagnetic emission from the device by constraining the slew rate on the floating bus.

The Office Action states without any citation whatsoever that Buhring's device does this.

No, it does not.

Furthermore, a claim rejection must be based on objective evidence of record, and cannot be supported merely on subjective belief and unknown authority. See, e.g., M.P.E.P. § 2144.03; In re Lee, 277 F.3d at 1344-45, 61 USPQ2d at 1434-35 (Fed. Cir. 2002); In re Zerko, 258 F.3d at 1386, 59 USPQ2d at 1697.

No such concrete evidence has been provided by the Examiner here, nor did the Examiner submit an affidavit as required by 37 C.F.R. § 1.104(d)(2) if this proposed motive were based on facts within his personal knowledge (see M.P.E.P. § 2144.03). Applicants respectfully request that such an affidavit be provided if a rejection continues to be made without a citation of any objective evidence.

Claim 10

Among other things, the circuit of claim 10 includes a reference circuit for generating a first reference signal for the first switch control circuit and a second reference signal for the second switch control circuit, wherein the first reference signal and the second reference signal are employed by the first switch control circuit and the second switch control circuit, respectively, for controlling electromagnetic emissions from the floating bus by constraining a slew rate on the floating bus.

As explained above with respect to claim 1, the switch control circuits of Buhring do not control electromagnetic emissions. As explained above with respect to claim 7, Buhring's device does not include any reference circuit generating any reference signals for any switch control circuits. As explained above with respect to claim 9, Buhring's device does not constrain the slew rate on the floating bus.

Accordingly, for at least these reasons, Applicants respectfully submit that

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claim 10 is patentable over Buhring.

Claims 11-12

Claims 11-12 depend from claim 10 and are deemed patentable over the prior art for at least the reasons set forth above with respect to claim 10.

Claim 14

Among other things, the method of claim 14 includes generating, when in use, a first reference signal (PRef) for the first switch control circuit and a second reference signal (NRef) for the second switch control circuit, wherein the first reference signal and the second reference signal are employed by the first switch control circuit and the second switch control circuit, respectively, for controlling electromagnetic emission from the floating bus by constraining a slew rate on the floating bus.

As explained above with respect to claim 1, the switch control circuits of Buhring do not control electromagnetic emissions. As explained above with respect to claim 7, Buhring's device does not include any reference circuit generating any reference signals for any switch control circuits. As explained above with respect to claim 9, Buhring's device does not constrain the slew rate on the floating bus.

Accordingly, for at least these reasons, Applicants respectfully submit that claim 14 is patentable over Buhring.

Claims 15-16

Claims 15-16 depend from claim 14 and are deemed patentable over the prior art for at least the reasons set forth above with respect to claim 14.

Claim 18

Among other things, the circuit of claim 18 includes means for generating, when in use, a first reference signal (PRef) for the first switch control circuit and a second reference signal (NRef) for the second switch control circuit, wherein the first reference signal and the second reference signal are employed by the first switch control circuit and the second switch control circuit, respectively, for controlling electromagnetic emission from the floating bus by constraining a slew rate on the floating bus. As explained above with respect to claim 7, Buhring's device does not

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Include any reference circuit generating any reference signals for any switch control circuits. As explained above with respect to claim 9, Buhring's device does not constrain the slew rate on the floating bus.

Accordingly, for at least these reasons, Applicants respectfully submit that claim 18 is patentable over Buhring.

Claim 5

Claim 5 depends from claim 1. Yamanaka does not remedy the shortcomings of Buhring as set forth above with respect to claim 1. Accordingly, claim 5 is patentable over any possible combination of Buhring and Yamanaka for at least the reasons set forth above with respect to claim 1, and for the following additional reasons.

Among other things, in the device of claim 5 at least one switch control circuit is operable in at least a low speed mode and a high speed mode, with mode of the at least one switch control circuit being dependent upon a desired floating bus charging speed.

The Office Action fairly admits that Buhring fails to disclose such features. However, the Office Action states that Yamanaka discloses a voltage detecting circuit for controlling the speed of some switches in order to reduce rush current, and further that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Buhring to incorporate Yamanaka's teaching to control the switches' speed in order to reduce rush current.

Applicants respectfully disagree.

At the outset, Yamanaka does not operate in any modes that are dependent upon a desired floating bus charging speed. Yamanaka does not even have a floating bus! Yamanaka pertains only to ground referenced charge transfer devices. So it is not possible for Yamanaka to disclose operation in any modes that are dependent upon a desired floating bus charging speed. Since it is admitted that Buhring also does not disclose this feature, no combination of Buhring and Yamanaka could ever produce a device such as the device of claim 5 that is operable in at least a low speed mode and a high speed mode, with mode of the at

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least one switch control circuit being dependent upon a desired floating bus charging speed.

Furthermore, the Office Action does not cite anything in Yamanaka that teaches that any modes are dependent upon a desired floating bus charging speed. Indeed, modes are automatically changed in Yamanaka's devices in order to prevent rush current from dropping a power supply voltage too much at start-up, and are not dependent upon any desired charging speed.

So again, no possible combination of Buhring and Yamanaka could ever produce the device of claim 5.

Also, Applicants respectfully traverse the proposed modification of Buhring as lacking any motivation in the prior art.

In Yamanaka, a charge pump supplies voltage from a power supply to a capacitor connected to ground, and Yamanaka's charge pump rush current limiting circuit operates to prevent rush current from dropping a power supply voltage too much at start-up to prevent malfunction of other circuits connected to the supply voltage.

However, Buhring does not supply voltage from a power supply to a capacitor connected to ground to generate any rush current that could cause a supply voltage to drop too low.

Therefore, there could be no motivation to modify Buhring's device.

Accordingly, for at least these additional reasons, claim 5 is deemed patentable over the cited prior art.

#### Claim 13

Claim 13 depends from claim 10. Yamanaka does not remedy the shortcomings of Buhring as set forth above with respect to claim 10. Accordingly, claim 13 is patentable over any possible combination of Buhring and Yamanaka for at least the reasons set forth above with respect to claim 10, and for the following additional reasons.

Among other things, in the circuit of claim 13 the first switch control circuit and the second switch control circuit are each operable in at least a low speed mode and

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a high speed mode, with mode of the first switch control circuit and the second switch control circuit being determined by the first reference signal and the second reference signal generated by the reference circuit in response to an input control signal which is dependent upon a desired floating bus charging speed.

The Office Action fairly admits that Buhring fails to disclose such features. However, the Office Action states that Yamanaka discloses a voltage detecting circuit for controlling the speed of some switches in order to reduce rush current, and further that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Buhring to incorporate Yamanaka's teaching to control the switches' speed in order to reduce rush current.

For the reasons set forth above with respect to claim 5, Applicants respectfully disagree, and also respectfully traverse the proposed modification of Buhring as lacking any motivation in the prior art.

Furthermore, the Office Action fails to mention the features of claim 13 wherein the mode of the first switch control circuit and the second switch control circuit are determined by the first reference signal and the second reference signal generated by the reference circuit in response to an input control signal.

Applicants respectfully submit that no combination of Buhring and Yamanaka could produce a circuit with such features. In that regard, Applicants also note that the Examiner has already argued that the first and second reference signals are supply voltages, and of course such supply voltages cannot determine a low speed or high speed mode of a circuit like Buhring's.

Accordingly, for at least these additional reasons, claim 13 is deemed patentable over the cited prior art.

#### Claim 17

Claim 17 depends from claim 14. Yamanaka does not remedy the shortcomings of Buhring as set forth above with respect to claim 14. Accordingly, claim 17 is patentable over any possible combination of Buhring and Yamanaka for at least the reasons set forth above with respect to claim 10, and for the following additional reasons.

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Among other things, in the method of claim 17 the first switch control circuit and the second switch control circuit are each operable in at least a low speed mode and a high speed mode, with mode of the first switch control circuit and second switch control circuit being determined by the first reference signal and the second reference signal, wherein the first reference signal and the second reference signal are generated by a reference circuit electrically coupled to the first switch control circuit and the second switch control circuit, and wherein the method further comprises providing an input control signal to the reference generator for controlling a value of the first reference signal and a value of the second reference signal.

The Office Action fairly admits that Buhring fails to disclose such features. However, the Office Action states that Yamanaka discloses a voltage detecting circuit for controlling the speed of some switches in order to reduce rush current, and further that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Buhring to incorporate Yamanaka's teaching to control the switches' speed in order to reduce rush current.

For the reasons set forth above with respect to claim 5, Applicants respectfully disagree, and also respectfully traverse the proposed modification of Buhring as lacking any motivation in the prior art.

Furthermore, the Office Action fails to mention the features of claim 17 wherein the first reference signal and the second reference signal are generated by a reference circuit electrically coupled to the first switch control circuit and the second switch control circuit, and wherein the method further comprises providing an input control signal to the reference generator for controlling a value of the first reference signal and a value of the second reference signal.

Applicants respectfully submit that no combination of Buhring and Yamanaka could produce a circuit with such features. In that regard, Applicants also note that the Examiner has already argued that the first and second reference signals are supply voltages, and of course there is no input control signal provided to a reference generator for controlling a value of power supply voltages in Buhring.

Accordingly, for at least these additional reasons, claim 17 is deemed

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patentable over the cited prior art.

### NEW CLAIMS 19-20

New claims 19-20 depend from claim 1 and are deemed patentable for at least the reasons set forth above with respect to claim 1, and further because the various combinations of features specifically recited in claims 19 and 20 are not disclosed in the cited prior art.

### CONCLUSION

In view of the foregoing explanations, Applicants respectfully request that the Examiner reconsider and reexamine the present application, allow claims 1-20 and pass the application to issue. In the event that there are any outstanding matters remaining in the present application, the Examiner is invited to contact Kenneth D. Springer (Reg. No. 39,843) at (571) 283.0720 to discuss these matters.


If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment (except for the issue fee) to Deposit Account No. 50-0238 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17, particularly extension of time fees.

Respectfully submitted,

VOLENTINE FRANCOS & WHITT, P.L.L.C.

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